

Remarks

The Office Action dated February 21, 2008 has been carefully considered. Claims 10, 29, and 32 have been amended without adding new matter. Reconsideration of the current claims is respectively requested.

Claim Objections

In Paragraph 1 of the Office Action, the numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. The numbering of the claims has been corrected.

In Paragraph 2 of the Office Action, claim 10 is objected to because of the following informalities: In line 6, please replace “25%” with “25 mole %.” Claim 10 has been amended accordingly.

In Paragraph 3 of the Office Action, claim 29 is objected to because of the following informalities: In line 21, the claim indicates that the composition exhibits a certain water absorption property. Claim 29 has been amended to clarify this.

In Paragraph 4 of the Office Action, claim 32* is objected to because of the following informalities: Please insert “the group consisting of” between the words “from” and “calcium.” Claim 32 has been amended accordingly.

Claim Rejections

In Paragraph 6 of the final Office Action, claims 3-6, 8-10, 14, 15, 17-19, 29, and 32* are rejected under 35 U.S.C. 103(a) as being unpatentable over Gartner *et al.* (WO 98/49221; equivalent U.S. 6,323,252) in view of evidence provided in Wilson (U.S. 6,579,958) and Aberson *et al.* (U.S. 4,548,847). The Examiner alleges that Gartner et al. discloses superabsorbent particles that, after heat treatment, have been surface treated with an aqueous solution of multivalent metal salt (claims 1, 3, 8) and that this type of crosslinking is a reversible phenomenon. In addition, the Examiner asserts that the superabsorbent disclosed in Gartner et al. is substantially the same as described in the instant claims.

It will be shown in the following remarks that Gartner et al. discloses surface treatment of the surface of the SAP particles to overcome various problems associated with very dry SAP, that Gartner et al. teaches away from the current claims, and surface crosslinking is not reversible as set forth by the examiner. In addition it will be shown that superabsorbent particles disclosed in Gartner et al. are not the same as the superabsorbent particles described in the present claims.

The superabsorbent particles as set forth in the present claims are substantially different than those disclosed in Gartner et al. Gartner et al. is directed to coating the surface, that has been heat treated, that results in a very dry product that is problematic as set forth in column 1, lines 15-35. Gartner et al. includes a coating that must remain on the superabsorbent polymer in order for the superabsorbent particles to have the requisite properties set forth therein. The problem set forth in Gartner et al. includes static electricity build up during handling of the SAP as well as friability of the surface that can lead to property degradation, dust production in the

polymer and irreversible agglomeration of the particles. According to Gartner et al. beginning in column 7, line 66 to column 8, line 5 “[t]he risk of undesired or irreversibly agglomerate reaction disappears when the water is sufficiently migrated into the particles so that the surface again loses stickiness.”

Hence, Gartner et al. discloses to apply an aqueous solution that includes multivalent metal salt to overcome the dryness of the superabsorbent particles to avoid adverse properties including agglomeration. Gartner et al. fails to disclose that the coating as set forth in part d) of claim 29 is washed off as set forth in the present claims resulting in the superabsorbent particles having different absorption properties.

To overcome this, the Examiner asserts that the trivalent salts in Gartner et al. may contribute to surface crosslinking which reduces the absorption capacity of the superabsorbent polymer and that this type of crosslinking is a reversible phenomenon as shown in Wilson. With all due respect to the Examiner, it is noted that Wilson does not disclose the surface crosslinking is a reversible phenomenon. In claim 1, Wilson discloses the following:

...the process comprising polymerizing a monomer in the presence of a covalent crosslinking agent, which is present in an amount sufficient to impart water-insolubility to the polymer, and a polyvalent metal coordination compound, under conditions such that there is formed a polymer having covalent crosslinks and reversible cationic crosslinks and such that the metal is distributed essentially homogeneously throughout the polymer particles, the particles having an Absorption Rate Index of at least about 5 minutes.

Wilson discloses the crosslinking is added such that the polymer includes covalent crosslinks and reversible cationic crosslinks wherein the metal is distributed essentially homogeneously throughout the polymer particles. A person skilled in the art will know that application of the crosslinker as suggested by Wilson for surface crosslinking will not be distributed homogeneously throughout the polymer. In addition, it is known to those skilled in the art that surface crosslinking of multivalent ions is not covalent bonding but is ionic bonding. In summary, Wilson does not disclose or suggest a coating that may be washed off the surface of the superabsorbent polymers, nor does Wilson disclose that surface crosslinking is a reversible phenomenon. At best, Wilson discloses crosslinks, including reversible cationic crosslinks that permit the metal to be distributed homogeneously throughout the polymer. This does not imply that a coating can be washed off the surface of the polymer as suggested by the Examiner.

Aberson et al. is not directed to coating superabsorbent particles, nor is it directed to removing a coating from the surface as set forth in the current claims. Aberson et al. is directed to internal crosslinking of superabsorbent polymer hydrogel with a polyvalent metal cation wherein the hydrogel may be combined with a removal agent for making the hydrogel uncrosslinked as set forth in column 3, lines 15 to 41. Specifically, the function of the removal agent is to form a complex with the crosslinking agent, thereby removing it as a cross-linking material and substantially restoring the aqueous absorbing properties of the hydrogel. Basically, the removal agent makes the hydrogel into an uncrosslinked polymer, which teaches away from, and destroys the superabsorbent particles of the present claims.

In view of the foregoing comments, it has been shown that Gartner et al. fails to disclose all the elements of the current claims and that Wilson fails to disclose the fact that a coating may be washed off the surface of the superabsorbent polymers as suggested by the Examiner. In view of these comments, the rejection of claims 3-6, 8-10, 14, 15, 17-19, 29, and 32* under 35 U.S.C. 103(a) as being unpatentable over Gartner *et al.* in view of evidence provided in Wilson and Aberson *et al.* should be withdrawn.

In Paragraph 7 of the final Office Action, claims 3-6, 8-10, 14, 15, 17-19, 29, and 32* are rejected under 35 U.S.C. 103(a) as being unpatentable over Inger *et al.* (U.S. 7,157,141) in view of evidence provided in Wilson (U.S. 6,579,958) and in Aberson *et al.* (U.S. 4,548,847). Inger et al. discloses a surface crosslinked superabsorbent particle that is reacted with the solution of at least one salt of an at least trivalent cation. Inger et al. fails to disclose that the coating as set forth in part d) of claim 29 is washed off as set forth in the present claims resulting in the superabsorbent particles having different absorption properties.

As above, the Examiner relies on Wilson and Aberson et al. for the principle that this type of crosslinking is a reversible phenomenon. However, as set forth above, Wilson and Aberson et al. do not disclose or suggest washing off the coating as suggested in the present claims.

In view of the foregoing comments, it has been shown that Inger et al. fails to disclose all of the elements of the current claims and that Wilson fails to disclose the fact that a coating may be washed off the surface of the superabsorbent polymers as suggested by the Examiner. In view of these comments, the rejection of claims 3-6, 8-10, 14, 15, 17-19, 29, and 32* under 35 U.S.C.

103(a) as being unpatentable over Inger *et al.* in view of evidence provided in Wilson and Aberson *et al.* should be withdrawn.

Conclusion

In light of the foregoing remarks and amendments to the claims, Applicants believe that the present application is now in condition for allowance, and such action is respectfully requested. If any issues remain unresolved, the Examiner is invited to telephone Applicants' counsel at the number provided below.

Respectfully submitted,

/Philip P. McCann/

Philip P. McCann
Registration No. 30,919

Smith Moore LLP
P.O. Box 21927
Greensboro, NC 27420
(336) 378-5302
phil.mccann@smithmoorelaw.com

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